

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Previously Presented) A method comprising:  
assigning a plurality of interactive virtual advertisement spots to a program;  
generating a retrieval plan; and  
providing the retrieval plan to a terminal, wherein the retrieval plan instructs the terminal to display in one of the virtual advertisement spots an interactive virtual object selected from a ranked list of a plurality of interactive virtual objects, wherein said ranked list is determined at least by a measure of effectiveness for each one of said plurality of interactive virtual objects in each one of said plurality of interactive virtual advertisement spots, wherein each one of the plurality of interactive virtual advertisement spots is in a different spatial location in said program.
2. (Previously Presented) The method of claim 1, wherein generating the retrieval plan comprises:  
assigning the terminal to one or more groups; and  
assigning each of the one or more of the groups to one or more of the plurality of interactive virtual objects.
3. (Original) The method of claim 2, wherein the step of assigning the terminal to one or more groups comprises:  
generating group assignment rules;  
delivering group assignment rules to the terminal;  
storing the group assignment rules at the terminal; and  
determining one or more group assignments based on the group assignment rules and data related to the terminal.

4. (Previously Presented) The method of claim 3, wherein the data related to the terminal includes one or more of Area of Dominant Influence (ADI), zip code, demographic data and programs watched data, virtual objects viewed, on-screen questionnaires and characteristics imported from marketing databases;

the method further comprising updating the group assignments to reflect changes in the ADI, zip code, the demographic data, the programs watched data, the virtual objects viewed, the on-screen questionnaires, and the characteristics imported from marketing databases.

5. (Currently Amended) The method of claim 1, further comprising periodically sending the retrieval plan and group assignment rules to the terminal.

6. (Previously Presented) A method of targeting interactive virtual objects, comprising:  
providing a program containing a plurality of interactive virtual object locations to a terminal;

providing one or more of a plurality of interactive virtual objects for each one of the plurality of the interactive virtual object locations to the terminal, wherein said one or more of the plurality of interactive virtual objects are selected from a ranked list of the plurality of interactive virtual objects, said ranked list is determined at least by a measure of effectiveness for each one of said plurality of interactive virtual objects in each one of said plurality of interactive virtual object locations, and each one of the plurality of interactive virtual object locations is in a different spatial location in said program;

providing a retrieval plan to the terminal, wherein the retrieval plan designates, for one or more of the plurality of interactive object locations, which of the provided one or more interactive virtual objects to display.

7. (Original) The method of claim 6, wherein the program is a television program.

8. (Original) The method of claim 6, wherein the program is one of an advertisement, an electronic program guide, and an Internet web page.

9. (Previously amended) The method of claim 6, wherein at least one of the plurality of interactive virtual object locations is fixed in position across frames of the program.

10. (Previously amended) The method of claim 6, wherein at least one of the plurality of interactive virtual object locations moves spatially in the program with time.

11. (Original) The method of claim 6, further comprising providing at least one non-interactive virtual object.

12-14. (Canceled)

15. (Previously Presented) The method of claim 65, further comprising generating the group assignment matrix, wherein the predefined groups within one of the target categories are defined based on characteristics of users.

16. (Original) The method of claim 15, wherein the characteristics include user demographic information.

17. (Original) The method of claim 15, wherein the characteristics include user entered information.

18. (Original) The method of claim 15, wherein the characteristics include programs watched data.

19. (Original) The method of claim 15, wherein the characteristics include interactive virtual objects watched data.

20. (Original) The method of claim 15, wherein the characteristics include user activation of the interactive virtual objects.
21. (Previously Presented) The method of claim 6, wherein the terminal is a television set top terminal.
22. (Previously Presented) The method of claim 6, wherein the terminal is incorporated into one of a television, a personal computer and a PDA with video viewing capabilities.
23. (Previously Presented) The method of claim 6, wherein the terminal is coupled to a satellite television receiver.
24. (Canceled)
25. (Previously Presented) The method of claim 6, wherein the retrieval plan is periodically provided with the program in a transmission to the terminal.
26. (Previously Presented) A method comprising:

receiving a program, a plurality of interactive virtual objects, and a retrieval plan at a terminal, wherein the program includes a plurality of interactive virtual object locations, the retrieval plan designates one or more of said plurality of interactive virtual objects to be displayed during a display of the program selected from a ranked list of said plurality of interactive virtual objects, the ranked list is determined at least by a measure of effectiveness for each one of said plurality of interactive virtual objects in each one of said plurality of interactive virtual object locations, and each one of the plurality of interactive virtual object locations is in a different spatial location in said program; and

displaying one or more of the interactive virtual objects in one or more of the interactive virtual object locations of the program according to the retrieval plan.

27. (Canceled)
28. (Previously Presented) The method of claim 26, wherein displaying, comprises:  
comparing a group assignment matrix to the retrieval plan, wherein the group assignment matrix assigns the terminal to a targeted user group; and  
selecting an interactive virtual object for display based on the comparison.
29. (Previously Presented) The method of claim 26 further comprising:  
linking a terminal selecting the at least one displayed interactive virtual object to an alternate program.
30. (Previously Presented) The method of claim 29, wherein the alternate program comprises an Internet web site.
31. (Previously Presented) The method of claim 28, further comprising generating the group assignment matrix including:  
receiving group assignment rules; and  
determining one or more group assignments at the terminal based on the group assignment rules and individual terminal data or terminal group data.
32. (Original) The method of claim 31, wherein the individual terminal data, comprises one or more of viewer demographic data, programs watched data, virtual objects viewed data, on-screen questionnaires, and characteristics imported from marketing databases, and wherein the terminal group data, comprises one or more ADI, zip code, and geographical data.
33. (Previously Presented) The method of claim 31, wherein the group assignment rules are stored in the terminal.

34. (Previously Presented) A terminal comprising:

a network interface configured to receive a plurality of interactive virtual objects and a plurality of interactive virtual object locations and metadata;

an interactive virtual objects extractor processor coupled to the network interface and configured to extract the plurality of interactive virtual objects, the plurality of interactive virtual object locations and the metadata;

a storage processor coupled to the extractor configured to determine which of the extracted plurality of interactive virtual objects are targeted to the terminal and save the extracted targeted interactive virtual objects in a memory; and

an interactive virtual object selector processor coupled to the storage processor and configured to determine an interactive virtual object placement for one or more saved interactive virtual objects selected from a ranked list of said plurality of interactive virtual objects, wherein said ranked list is determined at least by a measure of effectiveness for each one of said plurality of interactive virtual objects in each one of said plurality of interactive virtual object locations, and each one of the plurality of interactive virtual object locations is in a different spatial location in a program.

35. (Previously Presented) The terminal of claim 34, wherein the plurality of interactive virtual objects are received with programming content of the program, and wherein the extractor processor is configured to extract the plurality of interactive virtual objects from the programming content.

36. (Previously Presented) The terminal of claim 34, wherein the plurality of interactive virtual objects are received independently of programming content of the program.

37. (Previously amended) The terminal of claim 36, wherein the plurality of interactive virtual objects are received over the Internet.

38. (Original) The terminal of claim 34, wherein the terminal is a terminal in a television program delivery system.

39. (Original) The terminal of claim 38, wherein the terminal is a set top terminal.

40. (Original) The terminal of claim 38, wherein the terminal is a television.

41. (Original) The terminal of claim 34, wherein the terminal is one of a personal computer, a personal data assistant, and a wireless telephone.

42. (Previously Presented) The terminal of claim 34, wherein the selector processor is further configured to:

log the placement of an interactive virtual object and an interactive response to the interactive virtual object in the memory, and

use the placement and the response in determining placements of future interactive virtual objects.

43-45. (Canceled)

46. (Previously Presented) The system of claim 69, wherein the plurality of interactive virtual objects are provided to the terminal by one of a cable television system, a wireless broadcast system, a satellite broadcast system, a wired data network, a wireless PCS network, and a terrestrial television broadcast network.

47. (Canceled)

48. (Previously Presented) The system of claim 69, , wherein the plurality of interactive virtual objects and the retrieval plan are delivered through the network with the program.

49. (Previously Presented) The system of claim 48, wherein the one or more terminal network interfaces are further configured to receive replacement interactive virtual objects and a replacement interactive virtual object retrieval plan, wherein the replacement interactive virtual objects and the replacement retrieval plan are delivered from the operations center.

50. (Previously Presented) The system of claim 69, wherein an interactive virtual object of the plurality of interactive virtual objects, comprises:

- an interactive virtual object identifier;
- interactive virtual object placement rules, wherein the rules provide guidance to the terminal in managing insertion of interactive virtual objects into the program content;
- a digital representation of the interactive virtual object; and
- an interactive virtual object trigger action that defines an action to be taken upon triggering of the virtual object at the terminal.

51. (Original) The system of claim 50, wherein the interactive virtual object further comprises a virtual object applet that provides software capable of initiation by a source external to the terminal.

52. (Original) The system of claim 50, wherein the interactive virtual object trigger action initiates an interactive request to a location external to the terminal.

53. (Original) The system of claim 52, wherein the location external to the system further comprises:

- an interactive virtual object management center; and
- an interactive virtual object servicing center coupled to the interactive virtual object management center, wherein the management center provides interactive virtual object response management guidelines to the servicing center, and wherein the guidelines determine an appropriate response based on receipt of an interactive request from the terminal.



54. (Previously Presented) The system of claim 69, wherein the terminal further comprises:  
an interactive virtual object extractor that extracts interactive virtual objects from data received at the terminal;  
an interactive virtual object location detector processor, coupled to the extractor, that determines the allowable content locations for the plurality of interactive virtual objects; and  
an interactive virtual object insertion processor, coupled to the selector processor, that inserts the selected interactive virtual objects into the allowable content locations.
55. (Original) The system of claim 54, wherein the terminal further comprises a storage management processor coupled to the extractor, wherein the management processor uses an interactive virtual object retrieval plan to determine which received interactive virtual objects are to be stored at the terminal.
56. (Previously Presented) The system of claim 69, wherein the plurality of interactive virtual objects are selectable by a user at the terminal.
57. (Previously Presented) The system of claim 56, wherein an interactive selection by the user is processed automatically by the terminal.
58. (Canceled)
59. (Previously Presented) A method comprising:  
creating a package of a plurality of interactive virtual objects, wherein said plurality of interactive virtual objects are dynamic;  
providing the package to a plurality of terminals;  
generating a group assignment matrix, wherein the group assignment matrix assigns the terminals to groups;  
generating a retrieval plan;

providing a program to one or more of the terminals, the program including a plurality of interactive virtual object locations, wherein the retrieval plan designates one or more of the plurality of interactive virtual objects to be displayed in the plurality of interactive virtual object locations during a display of the program, wherein said plurality of interactive virtual objects are selected from a ranked list of the plurality of interactive virtual objects, wherein said ranked list is determined at least by a measure of effectiveness for each one of said plurality of interactive virtual objects in each one of said plurality of interactive virtual object locations, and each one of the plurality of interactive virtual object locations is in a different spatial location in said program.

60. (Previously Presented) The method of claim 59, wherein at least one of said plurality of interactive virtual objects includes triggers that initiate a signal from the terminals, the method further comprising:

receiving a trigger from one of the terminals;

retrieving an interactive virtual object trigger action in response to receipt of the trigger;

and

determining that the interactive virtual object trigger action requires initiation of an interactive request.

61. (Previously Presented) The method of claim 60, the method further comprising:

sending the interactive request to the terminal which sent the trigger;

awaiting an interactive response from the terminal which sent the trigger; and

initiating an interactive action based on the interactive response.

62. (Canceled)

63. (Previously Presented) The method of claim 59, further comprising:

linking a terminal selecting the at least one designated interactive virtual object to an alternate program.

64. (Original) The method of claim 63, wherein the alternative program comprises an Internet web site.

65. (Previously Presented) The method of claim 6 further comprising providing a group assignment matrix to the terminal, wherein:

the group assignment matrix classifies the terminal into one or more different predefined groups within each of one or more target user categories, and

the retrieval plan designates which of the provided one or more interactive objects to display in the one or more interactive object locations by associating the target categories and the predefined groups with the one or more interactive objects and the one or more interactive object locations.

66. (Previously Presented) The method of claim 65, wherein generating the retrieval plan comprises:

associating one of the target user categories with one of the interactive object locations;

associating each predefined group within the associated one of the target user categories with a respective one of the interactive objects.

67. (Previously Presented) The method of claim 6, wherein the ranked list is determined by:

scoring a compatibility of program content surrounding a first interactive virtual object location of the interactive virtual object locations with a targeted group of users,

scoring compatibilities of each of the plurality of interactive virtual objects with the targeted group of users; and

ranking each of the plurality of interactive virtual objects displayed in the first one interactive virtual object location based on combining the scoring of the program content and the scoring of each interactive virtual object.

68. (Previously Presented) The method of claim 67, wherein the ranked list is further determined by:

scoring a compatibility of program content surrounding a second interactive virtual object location of the interactive virtual object locations with the targeted group of users, and

ranking different pairs of the plurality of interactive virtual objects displayed in the first and second interactive virtual object locations and based on combining the scoring of the program content surrounding the first interactive virtual object location, the scoring of the program content surrounding the second interactive virtual object location, and the scoring of each interactive virtual object.

69. (Previously Presented) A system comprising:

an operations center including a network interface and one or more processors configured to:

provide, through a network, a program containing a plurality of interactive virtual object locations to a terminal;

provide one or more of a plurality of interactive virtual objects for each one of the plurality of the interactive virtual object locations to the terminal, wherein said one or more of the plurality of interactive virtual objects are selected from a ranked list of the plurality of interactive virtual objects, wherein said ranked list is determined at least by a measure of effectiveness for each one of said plurality of interactive virtual objects in each one of said plurality of interactive virtual object locations, and each one of the plurality of interactive virtual object locations is in a different spatial location in said program;

provide a retrieval plan to the terminal, wherein the retrieval plan designates, for one or more of the plurality of interactive object locations, which of the provided one or more interactive virtual objects to display; and  
a terminal comprising:

one or more terminal network interfaces configured to receive the program, the plurality of interactive virtual objects, and the retrieval plan;

an interactive virtual objects extractor processor coupled to the terminal network interfaces and configured to extract the plurality of interactive virtual objects, the plurality of interactive virtual object locations and the retrieval plan;

a storage processor coupled to the extractor configured to determine which of the extracted plurality of interactive virtual objects are targeted to the terminal and save the extracted targeted interactive virtual objects in a memory; and

an interactive virtual object selector processor coupled to the storage processor configured to determine an interactive virtual object placement for the one or more stored interactive virtual objects.

70. (Previously Presented) The system of claim 69, wherein the selector processor is further configured to:

log the placement of an interactive virtual object and an interactive response to the interactive virtual object in the memory, and

communicate the placement and the response to the operation center.

71. (Previously Presented) The system of claim 69 wherein each different spatial location in said program is a different location within a scene of the program.

72. (Previously Presented) The system of claim 69 wherein each different spatial location in said program is a different location within a frame of the program.

73. (Previously Presented) The method of claim 1 wherein each different spatial location in said program is a different location within a scene of the program.

74. (Previously Presented) The method of claim 1 wherein each different spatial location in said program is a different location within a frame of the program.

75. (Previously Presented) The method of claim 6 wherein each different spatial location in said program is a different location within a scene of the program.

76. (Previously Presented) The method of claim 6 wherein each different spatial location in said program is a different location within a frame of the program.

77. (Previously Presented) The method of claim 26 wherein each different spatial location in said program is a different location within a scene of the program.

78. (Previously Presented) The method of claim 26 wherein each different spatial location in said program is a different location within a frame of the program.

79. (Previously Presented) The terminal of claim 34 wherein each different spatial location in said program is a different location within a scene of the program.

80. (Previously Presented) The terminal of claim 34 wherein each different spatial location in said program is a different location within a frame of the program.

81. (Previously Presented) The method of claim 59 wherein each different spatial location in said program is a different location within a scene of the program.

82. (Previously Presented) The method of claim 59 wherein each different spatial location in said program is a different location within a frame of the program.